

## Patent Abstracts of Japan

PUBLICATION NUMBER : 2000182816  
PUBLICATION DATE : 30-06-00

APPLICATION DATE : 16-12-98  
APPLICATION NUMBER : 10375616

RECEIVED

MAR 01 2004

OFFICE OF PETITIONS

APPLICANT : TDK CORP;

INVENTOR : WATANABE MASAHIKO;

INT.CL. : H01F 1/34 C04B 35/36 C04B 35/38 H01F 30/00 H01F 37/00

TITLE : MANGANESE-BASED FERRITE, TRANSFORMER USING THE SAME AND CHOKE COIL

ABSTRACT : PROBLEM TO BE SOLVED: To provide a ferrite, in which high saturation magnetic flux density  $B_s$  of at least a prescribed value and low initial permeability  $\mu_i$  of at most a prescribed value are obtained, relative density does not decrease and the high initial permeability  $\mu_i$  can be maintained, when the content of Zn in a main component is at most a prescribed value which is close to zero.

SOLUTION: In this ferrite, main component is in a ternary system main component range of iron oxide, manganese oxide and zinc oxide when conversion into  $\text{Fe}_2\text{O}_3$ ,  $\text{MnO}$  and  $\text{ZnO}$  is made where following four points A, B, C and D are connected by straight lines. Here, A:  $\text{Fe}_2\text{O}_3=58.0$  mol%,  $\text{ZnO}: 0$  mol%, B:  $\text{Fe}_2\text{O}_3=54.5$  mol%,  $\text{ZnO}: 7.0$  mol%, C:  $\text{Fe}_2\text{O}_3=53.0$  mol%,  $\text{ZnO}: 5.0$  mol%, and D:  $\text{Fe}_2\text{O}_3=53.0$  mol%,  $\text{ZnO}: 0$  mol% (remainder in each point is  $\text{MnO}$ ). As subcomponent, at most 300 ppm of silicon oxide which is converted into  $\text{SiO}_2$  and at most 1,680 ppm of calcium oxide which is converted into  $\text{CaO}$  are contained. As impurities, P is at most 100 ppm and B is at most 60 ppm.

COPYRIGHT: (C)2000,JPO